

COLLECTION OF *ANTILLOCLADIUS PLUSPILALUS* *ANDA. ARCUATUS* (DIPTERA: CHIRONOMIDAE) IN EASTERN KANSAS¹

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ABSTRACT: Adult males of *Antillocladius pluspilalus* and *Antillocladius arcuatus* have recently been collected at two sites in eastern Kansas. Both species were collected from streams that have intermittent flow, or dry completely, during the summer months. This is the first record of these two species occurring outside of their type locality in South Carolina.

Recent collections of Chironomidae in Kansas have revealed that *Antillocladius pluspilalus* Saether and *A. arcuatus* Saether occur in the eastern part of the state. Since the genus *Antillocladius* has only been recently described (Saether, 1981) and these two species are currently known only from collections in South Carolina (Saether, 1982), it is felt that a short note documenting the collections in Kansas and summarizing the type of habitats from which adults were taken is in order. A few comments regarding the biogeographical implications of these findings are included.

Two adult males of *Antillocladius pluspilalus* were taken on 12 June 1985 while collecting pupal exuviae from a small stream flowing through second growth deciduous forest at the University of Kansas Natural History Reservation, 5.6 miles north, 2.0 miles east of the center of Lawrence, Douglas County, Kansas (T12S, R20E, Sec. 4). This stream is a first order stream that is intermittent throughout July and August in years with typical rainfall, although surface flow usually is apparent in fall through spring even in drought years. The substrate is gravel mixed with small quantities of sand and cobble, and considerable amounts of leaf litter and wood enter the stream in the fall. At the time of collection the stream width ranged from 0.4 to 0.8 meters and the maximum depth was less than 0.25 meter.

Six adult males of *Antillocladius arcuatus* were taken on 17 May 1985 while collecting pupal exuviae from a small unnamed stream flowing through a heavily forested ravine in the southeastern corner of Cherokee County, 3.1 miles South, 1.3 miles east of the center of Galena (T35S, R25E, Sec. 1). This stream is first order at the collection site. No records of

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the flow regime are available. When the sample site was revisited on 19 July 1985 no surface flow was observed and it is presumed that this stream is regularly intermittent in drier years. The substrate of the stream consists of large cobble and boulders, with sections where the water flows over outcroppings of bedrock. There was considerable leaf litter and wood debris in the stream on both of the above dates. At the time of collection of the adults the stream width varied from 0.3 to 1 meter and the maximum depth was approximately 0.33 meter.

The descriptions of the immature stages of *Antillocladius pluspilalus* are based upon a single reared larva that was collected from a seep area near the shore of Jocassee Reservoir, South Carolina (Saether, 1984). No larvae or pupal exuviae similar to the description of *A. pluspilalus* were collected from the streams at either Kansas site on either date. A UV light trap collection on 16-17 May at the Cherokee County site did not yield adult males of *A. arcuatus*, and sweeping of vegetation at both sites also did not result in the collection of additional specimens. No attempts were made to sample seep areas or riparian habitats at either site, since we were unaware at the time of collection that *Antillocladius* adults were contained in our samples.

While skimming pupal exuviae it was observed that adults collected in the sieve had been resting at the water's surface on detritus or at the downstream edges of rocks along the bank of the stream. They did not readily fly and were easily sieved and preserved along with pupal exuviae. It is likely that larvae of both species are semiaquatic or riparian. It also appears that adults congregate at the margin of the stream, do not disperse far from the point of emergence, and are not attracted to UV light. All of these factors probably contribute to the lack of collection of *Antillocladius* in standard benthic sampling. The occurrence of *A. pluspilalus* and *A. arcuatus* in eastern Kansas suggests that these two species may be widespread in the eastern U.S. but due to their habits require specialized collecting efforts in order to be detected.

Ferrington (1983) discussed the distributional patterns of some Chironomidae known to occur in Kansas and proposed six generalized patterns. The two species of *Antillocladius* reported in this note may fit in distributional category #5 — Species with dense populations in the southeastern United States, but with marginal populations extending north and west into or throughout much of the central plains region. This interpretation would be consistent with the views offered by Saether (1982) if it is assumed that their presence in Kansas is the result of dispersal north and west since the Pleistocene.

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BOOKS RECEIVED AND BRIEFLY NOTED

A REVIEW OF THE GENERA DOITHRIX N. GEN., *GEORTHOCLADIUS* STRENZJE, *PARACHAETOCLADIUS* WÜLKER AND *PSEUDORTHOCLADIUS* GEOTGHEBUER (DIPTERA: CHIRONOMIDAE, ORTHOCLADIINAE) Saether, O.A. and J.E. Sublette 1983. Ent. Scand. Suppl. 20, 100 pp. \$19.00

According to the authors the above four genera from a monophyletic group and keys to the adult males, pupae and larvae of these genera are given. In addition keys are presented to the males and/or females of the species within each genus and also the pupae and larvae, if known. A new subgenus of *Pseudorthocladus*, *Lordella* is described and keyed.

ARCTIC COLLEMBOLA I - ALASKAN COLLEMBOLA OF THE FAMILIES PODURIDAE, HYPOGASTRURIDAE, ODONTELLIDAE, BRACHYSTOMELLIDAE AND NEANURIDAE. Fjellberg. A. 1985. Ent. Scand. Suppl. 21, 126 pp. \$20.00.

This paper includes keys to the genera, in some cases subgenera, and species of the families listed in the title. There are some excellent figures for some characters of each species and brief discussion of the distributional patterns of Alaskan Collembola.

A TAXONOMIC REVISION OF THE GENUS *BLATTELLA* CAUDELL (DICTYOPTERA, BLATTARIA: BLATTELLIDAE) Roth, L.M. 1985. Ent. Scand. Suppl. 22, 221 pp. \$40.00.

This is an exhaustive worldwide revision of the genus *Blattella* which includes the ubiquitous household pest *B. germanica* (L.). A key to the males of the species and the distribution of each species is given. Seventeen new species are described. The illustrations are entirely excellent photographs including some SEM photos. A fine work by a well-known authority on the roaches.